

Name : \_\_\_\_\_

Score : \_\_\_\_\_

## Scientific Notation

Simplify and express in scientific notation:

Example 1

$$\begin{aligned}
 & (6.01 \times 10^{-2}) + (5.2 \times 10^{-4}) \\
 &= (6.2 \times 10^{-4}) \times 10^2 + (5.2 \times 10^{-4}) \\
 &= (620 \times 10^{-4}) + (5.2 \times 10^{-4}) \\
 &= 625.2 \times 10^{-4} \\
 &= \mathbf{6.252 \times 10^{-2}}
 \end{aligned}$$

Example 2

$$\begin{aligned}
 & (8.45 \times 10^5) - (3.6 \times 10^3) \\
 &= (8.45 \times 10^3) \times 10^2 - (3.6 \times 10^3) \\
 &= (845 \times 10^3) - (3.6 \times 10^3) \\
 &= 841.4 \times 10^3 \\
 &= \mathbf{8.414 \times 10^5}
 \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1)  $(7.18 \times 10^{-7}) + (9.48 \times 10^{-9})$

Answer : \_\_\_\_\_

2)  $(2.2 \times 10^6) - (8 \times 10^2)$

Answer : \_\_\_\_\_

3)  $(5.42 \times 10^2) - (2.1 \times 10^{-1})$

Answer : \_\_\_\_\_

4)  $(4.27 \times 10^{-2}) + (5.8 \times 10^{-5})$

Answer : \_\_\_\_\_

5)  $(7.14 \times 10^4) + (2.89 \times 10^2)$

Answer : \_\_\_\_\_

6)  $(1.5 \times 10^{-3}) - (3.2 \times 10^{-7})$

Answer : \_\_\_\_\_

7)  $(4.8 \times 10^3) - (1.9 \times 10^{-1})$

Answer : \_\_\_\_\_

8)  $(5.62 \times 10^8) + (6.7 \times 10^5)$

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**Answer key**

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Example 1

$$\begin{aligned}
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 &= (6.2 \times 10^{-4}) \times 10^2 + (5.2 \times 10^{-4}) \\
 &= (620 \times 10^{-4}) + (5.2 \times 10^{-4}) \\
 &= 625.2 \times 10^{-4} \\
 &= \mathbf{6.252 \times 10^{-2}}
 \end{aligned}$$

Example 2

$$\begin{aligned}
 & (8.45 \times 10^5) - (3.6 \times 10^3) \\
 &= (8.45 \times 10^3) \times 10^2 - (3.6 \times 10^3) \\
 &= (845 \times 10^3) - (3.6 \times 10^3) \\
 &= 841.4 \times 10^3 \\
 &= \mathbf{8.414 \times 10^5}
 \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1)  $(7.18 \times 10^{-7}) + (9.48 \times 10^{-9})$

Answer :  $\mathbf{7.2748 \times 10^{-7}}$

2)  $(2.2 \times 10^6) - (8 \times 10^2)$

Answer :  $\mathbf{2.1992 \times 10^6}$

3)  $(5.42 \times 10^2) - (2.1 \times 10^{-1})$

Answer :  $\mathbf{5.4179 \times 10^2}$

4)  $(4.27 \times 10^{-2}) + (5.8 \times 10^{-5})$

Answer :  $\mathbf{4.2758 \times 10^{-2}}$

5)  $(7.14 \times 10^4) + (2.89 \times 10^2)$

Answer :  $\mathbf{7.1689 \times 10^4}$

6)  $(1.5 \times 10^{-3}) - (3.2 \times 10^{-7})$

Answer :  $\mathbf{1.4997 \times 10^{-3}}$

7)  $(4.8 \times 10^3) - (1.9 \times 10^{-1})$

Answer :  $\mathbf{4.7998 \times 10^3}$

8)  $(5.62 \times 10^8) + (6.7 \times 10^5)$

Answer :  $\mathbf{5.6267 \times 10^8}$